

## ABSTRACT

Powder of a simple substance or a combination of a plurality of carbides of metals belonging to the IVa, Va and VIa families in the Periodic Table is mixed with a ferrous-family metal powder or non-ferrous metal powder having the same composition as the treatment target (2) as a simple substance or a combination of a plurality of metals, and this is compressed and molded, and then preliminarily sintered to form a sintered electrode (12) serving as a discharge processing electrode; and said device is provided with a switching unit which alters electrical conditions at the time when the base member of the treatment target (2) is directly subjected to a discharging surface treatment and the electrical conditions at the time when a hard coat film (13) that has been formed is subjected to a discharging surface treatment according to the characteristics of the treatment target material. Thus, a discharge is continuously generated between the sintered electrode (12) and the treatment target (2) so that the hard coat film (13) is continuously allowed to deposit on the surface of the treatment target (2) by the discharging energy to form a thick film.